

## *Supplementary Material*

### Efficient CRISPR/CAS9 Genome Editing of *Phytoene desaturase* in Cassava

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**Supplementary Figure S1. Sequenced-based detection of mutations induced by CRISPR/Cas9 construct *MePDS-1* in cultivar TME 204.** PCR was used to amplify across the target region. The PCR product was cloned into pCR Blunt-II TOPO vector and transformed into *E. coli*. Multiple individual colonies were analysed via Sanger sequencing to detect mutations near the target site. Sequence alignment for six colonies was derived from mutant plant line 4 (-4). The target region of *MePDS* is underlined and bolded in the wild type reference sequence (WT), with the protospacer adjacent motif (PAM) in bold but not underlined. The number of colonies with a specific sequence pattern is indicated in parentheses. Deletions are highlighted in yellow and substitutions are highlighted in pink. Mutation type, deletion (-) or substitution (S) and size are indicated at the right side of the panel.

#### *MePDS-1, cv. TME 204*

WT	GTAATATTGACT <u><b>GCGTACAAAGCTTCCCAGATA</b></u> GGACAGCGCCCTCATTGAAGCAAATATTTGCTTGTTGTAGTCCCCAGCTAAAT
-4 (1)	GTAATATTGACTGC <u><b>G</b></u> CTACAAAGCTTCCCAGAT <u><b>A</b></u> GGACAGCGCCCTCATTGAAGCAAATATTTGCTTGTTGTAGTCCCCAGCTAAAT
(1)	GTAATATTGACTGC <u><b>G</b></u> CTACAAAGCTTCCCAGAT <u><b>A</b></u> GGACAGCGCCCTCATTGAAGCAAATATTTGCTTGTTGTAGTCCCCAGCTAAAT
(2)	GTAC <u><b>A</b></u> ATTGACTGC <u><b>G</b></u> CTACAAAGCTTCCCAGAT <u><b>A</b></u> GGACAGCGCCCTCATTGAAGCAAATATTTGCTTGTTGTAGTCCCCAGCTAAAT
(1)	GTAATATTGACTGC <u><b>G</b></u> CTACAAAGCTTCCCAGAT <u><b>A</b></u> GGACAGCGCCCTCCA-----
(1)	GTAC <u><b>A</b></u> ATTGACTGC <u><b>G</b></u> CTACAAAGCTTCCCAGAT <u><b>A</b></u> GGACAGCGCCCTCCA-----
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WT	AGAAGCCCTCTATAGGAGATCTGTAA <u><b>C</b></u> GGACGGCAAGGTTCAACATTGGAACC <u><b>G</b></u> TCTTGTAAACAGACCTGAGAAAATCAGCAGGT
-4 (1)	AGAAGCCCTCTATAGGAGATCTGTAA <u><b>C</b></u> GGAC <u><b>G</b></u> CAAGGTTCAACATTGGAAC <u><b>G</b></u> CTTGTAAACAGACCTGAGAAAATCAGCAGGT -1
(1)	AGAAGCCCTCTATAGGAGATCTGTAA <u><b>C</b></u> GGAC <u><b>G</b></u> CAAGGTTCAACATTGGAAC <u><b>G</b></u> CTTGTAAACAGACCTGAGAAAATCAGCAGGT -3
(2)	AGAAGCCCTCTATAGGAGATCTGTAA <u><b>C</b></u> GGAC <u><b>G</b></u> CAAGGTTCAACATTGGAAC <u><b>G</b></u> CTTGTAAACAGACCTGAGAAAATCAGCAGGT -3, S2
(1)	-----TTGTAAACAGACCTGAGAAAATCAGCAGGT -101
(1)	-----TTGTAAACAGACCTGAGAAAATCAGCAGGT -101, S2
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